

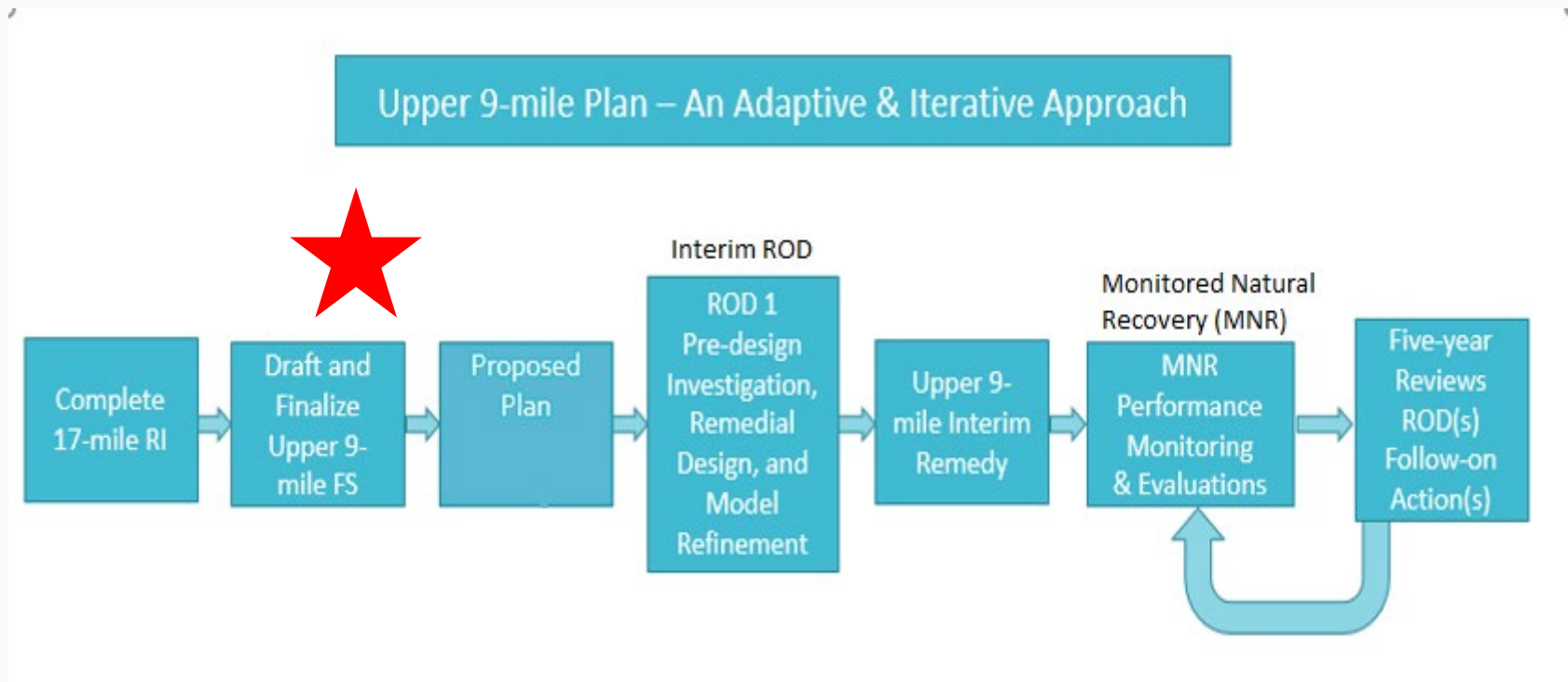


Community Advisory Group Meeting April 30, 2020





Interim Remedy Schedule





Interim Remedy Remedial Action Objectives (RAOs)

- RAO 1: Address surface sediment sources to attain 2,3,7,8-TCDD surface-weighted average concentration (SWAC) of not more than 85 ppt (91% reduction in SWAC); attain PCB SWAC at or below background; from river mile (RM) 8.3 to 15
- RAO 2: Address subsurface sediments that could become contamination sources based on erosion potential and remedial action levels derived for subsurface sediments



Draft Feasibility Study (FS) Alternatives

- Interim remedy **target** 2,3,7,8-TCDD SWACs:
 - 65 ppt
 - 75 ppt
 - 85 ppt
 - 125 ppt (this target SWAC is for comparison in the interim remedy FS, and is not be eligible for selection)

Note: 65, 75, and 85 ppt SWAC alternatives include target PCB SWAC at or below background



Draft FS Alternatives

Alternative (SWAC)		RAL (ppt)	% SWAC Reduction of dioxin	Acres	Volume (cy)	Years	Cost \$M
1	No action (932 ppt)	---	0%	0	0	---	0
2	85 ppt	260	91%	90	363,000	4.3	412
3	75 ppt	205	92%	96	387,000	4.6	433
4	65 ppt	165	94%	104	419,000	4.9	460
5	125 ppt	346	87%	62	250,000	3.2	314



Contaminated Sediments Technical Advisory Group (CSTAG)

- 11/19/2019 to 11/21/2019 - Region 2 presented the Draft FS to CSTAG during milestone meeting #3
- 1/31/2020 - CSTAG offered recommendations
- 3/2/2020 - Region 2 submitted responses



CSTAG Recommendation 1

RAO and Remedial Goal Development

1a

- CSTAG supports the idea of using SWAC as a measurable goal, with the benefit of reducing exposure and risk
- The Region will move forward with evaluating an Interim Remedy that focuses on SWAC

1b

- CSTAG recommends being consistent with existing guidance in defining source
 - Definition of source sediments: Sediments having elevated concentrations; these sediments have a low potential for recovery, and act as a reservoir for potential migration of contamination to surface water and biota, thereby inhibiting overall recovery in the system
- The Region revised the definition



CSTAG Recommendation 1

RAO and Remedial Goal Development

1c

- CSTAG recommends being clearer in explaining the derivation of subsurface remedial action levels (RALs)
 - Each alternative has a PCB surface RAL of 1 ppm; designing the IR to meet a particular 2,3,7,8-TCDD SWAC will yield a surface RAL for 2,3,7,8-TCDD
 - Example: Alt 3 (SWAC of 75 ppt) RAL is about 205 ppt
 - RAO 2 address erosional areas and concentrations below the surface; since the probability of exposing any buried sediments through erosion is less than 100%, subsurface RALs are a multiplier of the surface RALs
 - Example: For Alt 3, the 2,3,7,8-TCDD subsurface RAL would be 410 ppt based on existing data used in the FS and a multiplier of 2
- The Region will ensure the FS clearly explains how the RALs are identified



CSTAG Recommendation 1

RAO and Remedial Goal Development

1d

- CSTAG recommends being clear in how we determine the preferred alternative and how RALs were determined
- The Region will ensure the Proposed Plan clearly identifies how the preferred alternative was identified



CSTAG Recommendation 2

SWAC Exposure Areas

2a

- CSTAG recommends applying SWAC to smaller areas (or a stratified sampling approach for pre-design data)
- The Region will evaluate whether applying the SWAC to smaller areas in the design is appropriate

2b

- CSTAG recommends restating RAOs
 - The FS indicates that any sources identified above RM 15 would be addressed to achieve the RAOs
 - RAOs apply specifically to RM 8.3 to 15, and therefore would not accommodate any action above RM 15
- The Region agrees and is currently addressing



CSTAG Recommendation 3

IR Completion Strategy

3a

- CSTAG recommends that the measured SWAC be used to evaluate RAO 1 achievement
- The Region will move forward with this

3b

- CSTAG supports that there could be an IR successful determination or an IR complete determination based on multiple lines of evidence, and recommends applying a weight to the different lines of evidence
- The Region agrees and is currently addressing



Lines of Evidence

1. Accurate mapping of total PCB and 2,3,7,8-TCDD concentrations and areas vulnerable to erosion (sediment sampling and bathymetry).
2. Comprehensive IR design that effectively addresses the identified sediment sources.
3. IR implementation that successfully minimizes resuspension and redistribution of sediments.
4. SWAC goals of 85 ppt for 2,3,7,8-TCDD and 0.46 mg/kg for total PCBs have been attained (statistical testing).
5. Indications of remaining source areas.



CSTAG Recommendation 3

IR Completion Strategy

3c

- CSTAG supports the Region's statistical approach to show the IR is successful and recommends it be clearly defined
- The Region will move forward with this

3d

- CSTAG recommends confirmatory sampling begin during the remediation, rather than performing confirmatory sampling after IR construction is complete
- The Region believes a synoptic confirmation sampling is more appropriate for this IR and explained this to the CSTAG; they have agreed the region can move ahead



CSTAG Recommendation 4

Alternative Development

4a

- CSTAG recommends ensuring that remedial technologies are appropriately screened in the FS (and the FS does not assume dredging)
- The Region explained that technologies were screened in the FS and for Lower 8.3 and no further analysis is necessary

4b

- CSTAG recommends the Region use lessons learned from 10.9
- The Region will include 10.9 lessons learned in review of the FS and evaluation of alternatives



CSTAG Recommendation 4

Alternative Development

4c

- CSTAG supports that some areas should be dredged to clean where feasible, and recommends the principles for implementing dredge to clean should be clear
- The Region will move forward with developing a plan on how to implement a dredge to clean approach



CSTAG Recommendation 5

Adaptive Management

5a

- CSTAG recommends the adaptive management approach for the upper 9 miles should be more clearly related to the final long-term objective (risk reduction)
- CSTAG recommends using interim fish tissue goals
- The Region will move forward with developing the adaptive management plan to include this concept

5b

- CSTAG supports the robust monitoring program planned for the IR and long-term monitoring



CSTAG Recommendation 5

Adaptive Management

5c

- CSTAG recommends considering passive samplers for surface water sampling
- The Region will move forward with a plan to include passive samplers in the surface water sampling

5d

- CSTAG recommends the adaptive management program be aligned under one overall goal, which is system recovery
- CSTAG recommends not describing routine Superfund activities as adaptive
- The Region will move forward with developing the adaptive management plan with this goal as the key component

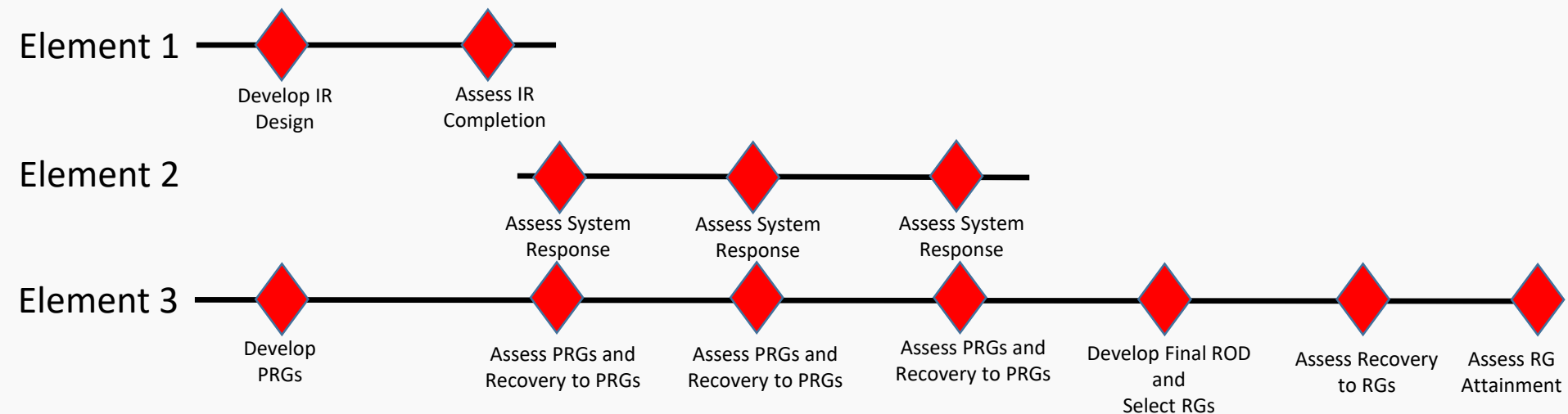


EPA Suggested Adaptive Management

Element 1: IR Design and Implementation

Element 2: System Response

Element 3: System Recovery





CSTAG Recommendation 5

Adaptive Management

5e

- CSTAG recommends the adaptive management plan clearly state when decisions will be made and on what basis
- The Region will move forward with developing the adaptive management plan with these decision points identified



Upper 9 Mile Long-term Schedule

- May/June 2020 – Final CSTAG/NRRRB Meeting
- May/June 2020 – Finalize FS
- Summer 2020 - Brief EPA Administrator
- September 2020 – Proposed Plan
- Winter 2020/2021 – Record of Decision for Interim Remedy for Source Control